

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/004399

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>7</sup> B22D23/00, B22F9/08, B22F3/115, B29C67/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> B22D23/00, B22F9/08, B22F3/115, B29C67/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004

Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<u>X</u> Y	JP 6-88202 A (General Electric Co.), 29 March, 1994 (29.03.94), Fig. 2; Par. Nos. [0017] to [0022] (Family: none)	<u>1, 3, 6</u> 2
Y	JP 2001-293551 A (Citizen Watch Co., Ltd.), 23 October, 2001 (23.10.01), Fig. 2; Par. Nos. [0009] to [0012] (Family: none)	2
A	JP 59-118805 A (Sumitomo Light Metal Industries, Ltd.), 09 July, 1984 (09.07.84), Fig. 1; page 4, upper left column (Family: none)	1-7

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
11 June, 2004 (11.06.04)Date of mailing of the international search report  
29 June, 2004 (29.06.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 10-244355 A (Howmet Research Corp.), 14 September, 1998 (14.09.98); Figs. 1 to 2; Par. Nos. [0011] to [0023] & EP 0852976 A1	1

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The invention of Claims 1 to 5, and 6 relate to a device and method of injecting molten metal.

The invention of Claim 7 relates an injection device for injecting not molten metal but metallic powder, a mixture of non-metallic powder and a liquid, or a liquid.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Continuation of Box No.III of continuation of first sheet(2)

A condition required for device and method of injecting molten metal and that required for injecting other materials described above should be completely different from each other. Although Claim 7 refers back to Claims 4 and 5 and these two claim groups are formally common to each other in the structure of the inventions, they are actually completely different inventions.

Consequently, there is no technical relationship between these inventions involving one or more of the same or corresponding special technical features.